CLAIMS

What is claimed:

1. A method comprising:

reducing a height of a plurality of roughness formations on a surface of a film on a semiconductor substrate by exposing the film to a smoothing medium.

2. The method of claim 1, wherein the roughness formations have a first height before said exposure and a second height after said exposure, the second height being less than the first height.

3. The method of claim 2, further comprising removing the film from the smoothing medium.

4. The method of claim 3, wherein the film is a copolymer.

5. The method of claim 4, wherein the copolymer comprises at least one of Vinyledene Flouride and Triflouroethlyene.

6. The method of claim 5, wherein the semiconductor substrate is a semiconductor wafer.

7. The method of claim 6, further comprising forming the film on the semiconductor wafer, said formation occurring while the semiconductor wafer is spun.

8. The method of claim 7, wherein the smoothing medium is a solvent.

9. The method of claim 8, wherein the solvent is ethyl lactate.

10. A method comprising:

dispensing a smoothing solvent onto a film on a semiconductor substrate, the film having a plurality of roughness formations on a surface thereof, the roughness formations having a first height; and

removing the smoothing solvent from the film, the roughness formations having a second height after said removal, the second height being less than the first height.

11. The method of claim 10, wherein the film is a spun film.

12. The method of claim 11, wherein film is a copolymer.

13. The method of claim 12, wherein the semiconductor substrate is a wafer.

14. The method of claim 13, wherein the wafer is spun to remove the smoothing solvent.

15. A method comprising:

spinning a semiconductor wafer about a central axis thereof;

dispensing a polymer on the wafer during said spinning to form a polymeric film thereon, the polymeric film having a plurality of roughness formations on a surface thereof, the roughness formations having a first height;

heating the wafer;

dispensing a smoothing solvent onto the film; and

removing the smoothing solvent from the film by spinning the wafer about the central axis thereof, the roughness formations having a second height after said removal, the second height being less than the first height.

16. The method of claim 15, wherein the central axis of the wafer is perpendicular to an upper surface thereof.

17. The method of claim 16, wherein the polymer is a copolymer.

18. A method for constructing a memory cell comprising:

forming a polymeric body on a first electrode, the polymeric body having a plurality of roughness formations on a surface thereof, the roughness formations having a height;

dispensing a smoothing solvent onto the polymeric body;

removing the smoothing solvent from the polymeric body, the roughness formations having a second height after said removal, the second height being less than the first height;

depositing an interface material on the surface of the polymeric body; and

forming a second electrode on the interface material to change a charge of the polymeric body from a first value to a second value when a voltage is applied across the first electrode and the second electrode, the interface material completely separating the polymeric body from the second electrode.

19. The method of claim 18, wherein the polymeric body comprises a copolymer.

20. The method of claim 19, further comprising forming the first electrode on a substrate.

21. The method of claim 20, wherein the polymeric body is ferroelectric.

22. A method for constructing a semiconductor device comprising:

forming a dielectric layer on a substrate;

forming a plurality of first conductive lines, extending in a first direction, on the dielectric layer;

forming a plurality of polymeric sections on the first conductive lines, the polymeric sections having a plurality of roughness formations on surface thereof, the roughness formations having a height;

exposing the polymeric sections to a smoothing medium for a period of time;

removing the polymeric sections from the smoothing medium, the roughness formations having a second height after said removal, the second height being less than the first height;

forming a plurality of interface sections on the polymeric sections; and

forming a plurality of second conductive lines, extending in a second direction, on the interface sections to position each respective pair of polymeric and interface sections between one first and second conductive line, the second direction being transverse to the first direction, the interface sections completely separating the polymeric sections from the second conductive lines.

23. The method of claim 22, wherein the substrate is a semiconductor wafer.

24. The method of claim 23, wherein the conductive lines are made of at least one of titanium nitride, titanium, and aluminum.

25. The method of claim 24, wherein the second direction is substantially perpendicular to the first direction.

26. The method of claim 25, wherein said formation of polymeric sections comprises spinning a polymeric layer onto the substrate and curing the polymeric layer.

27. The method of claim 26, further comprising forming a plurality of microelectronic components on the semiconductor wafer.